

## FAULTS IN OUR BATTLESHIPS

## SUMMARY OF RESULTS OF THE NEWPORT CONFERENCE.

Validation of Commander Key's Criticisms of the North Dakota's Design—Changes to Be Made in the Plans of the Battleships Utah and Florida.

WASHINGTON, Nov. 22.—The official summary of the proceedings and results of the conference on battleship design held at the Naval War College at Newport, R. I., last summer, which was prepared by the general board of the navy at the direction of President Roosevelt, is a vindication of the criticisms of the design of the battleship North Dakota made by Commander Albert L. Key, former naval aide to the President, in his letter of June 9 last, in which he condemned severely many features of the design of the battleship. Several thousand copies of the summary have been printed and as "General Order No. 78" they will be distributed throughout the naval service.

The conference called by President Roosevelt to consider Commander Key's criticisms consisted of sixty-seven officers, including two army officers, two marine corps officers and four naval constructors. The principal criticisms and suggestions of Commander Key's letter were:

1. The inefficiency of the 5 inch upper casemate armor of the North Dakota to protect 3 inch armor on the turret and that the turret would be greatly improved if the 5 inch armor were entirely abrogated and the weight so saved devoted to turrets for the lower defense battery (the 5 inch guns) and as far as possible to protection to the uptakes and funnels.
2. That the position and protection of the 5 inch battery are indefensible.
3. That the 5 inch guns might be mounted on the tops of the turrets or in pairs in turrets of 5 inch armor on the main deck.
4. The danger of the unarmored ends of the North Dakota.
5. The faulty location of No. 3 magazine between the engine and fire rooms and in this connection the location of No. 3 turret.
6. The relative heights of Nos. 4 and 5 turrets, and in this connection a suggestion that No. 3 turret might have been placed above the engine room and that Nos. 3, 4 and 5 turrets might have been echeloned in the vertical plane to give fire directly aft to all 3.
7. The inferiority of American to foreign guns.
8. The position of the normal waterline and the depth of the armor belt.
9. The overdraft of battleships already constructed.

On the question of the 5 inch casemate armor the conference admitted that this thickness was inadequate and recommended 8 inch casemate armor on future vessels. The conference admitted that the 5 inch torpedo defense guns were "too low to be used in ordinary trade wind weather" and recommended that they be placed in a more elevated position and afforded better protection. The conference rejected, however, Commander Key's suggestion that they be placed in turrets of their own.

No opinion was expressed as to the question of the unarmored ends of the North Dakota. The location of the 12 inch magazine, No. 3 turret, between the engine and the fire rooms, where it is surrounded by steam pipes, was acknowledged to be a serious defect and the conference recommended in future ships this arrangement be avoided. The North Dakota and the Delaware, the conference said, were too far completed, and as it was undesirable to delay the approval of the plans of the Utah and Florida, this defect in these four vessels will be overcome by refrigeration.

With regard to the height of No. 4 and No. 5 turrets the conference said that the turret height could not conveniently be changed on the North Dakota or the Delaware, but that it would not delay the plans of the Florida and Utah to raise the turret and lower No. 3 turret so that in firing their radius of action will not interfere with each other. The inferiority of American guns to those of foreign nations was admitted and the conference recommended that the 12 inch 45 caliber guns being constructed for the Utah and Florida be adapted to the turret of the North Dakota. The conference held, was within a few inches of the correct position. On the subject of the location of the belt armor on vessels afloat the conference expressed the opinion that it was "undesirable and inexpedient" to discuss the question of the location of the belt armor on vessels constructed or authorized before the North Dakota and the Delaware.

The summary consists of a letter written on August 26 last by Acting Secretary of the Navy Newberry to President Roosevelt outlining the results of the conference; the letter of Commander Key's criticism of the design of the North Dakota; a letter written by Mr. Newberry on July 2 calling the conference at the direction of the President; and a report that a joint meeting of the General Board and the Naval War College be held to consider the criticisms contained in Commander Key's letter and a summary of the work of the conference. The meeting was held under the direction of Admiral Dewey, president of the General Board.

In his report to the President Mr. Newberry says: "After a careful consideration of the plans of the North Dakota and the Delaware and the criticisms of the designs of those vessels submitted by Commander A. L. Key, U. S. N., in his letter dated June 9, 1908, the conference recommended that the following changes be made in the design of the North Dakota and the Delaware: That the location of searchlights on the North Dakota and Delaware should conform as far as possible to that recommended in the report of the recent board on torpedo defense."

That necessary bridge facilities be supplied for navigational purposes in narrow water, provided such bridges are not installed above the conning tower.

That the torpedo control station on the North Dakota and Delaware be adapted for lighting at a target materially above the beam and that a second torpedo control station be provided abait the after smoke pipe.

Commenting on these recommendations Mr. Newberry says that the addition of splinter bulkheads involves very considerable additional weight to the upper part of the vessel and decreases the metacenter height, but in view of the action of the conference the Department

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will make provision for the addition of the splinter bulkhead on the Delaware and the North Dakota. With regard to magazine refrigeration Mr. Newberry adds that the subject already has been given careful consideration by the Department and suitable steps will be taken by the Department to install a refrigeration system in the magazines of the Delaware and the North Dakota. On the subject of fire control masts the Navy Department, he says, had made provision already for their installation should they be adopted on the Delaware and the North Dakota.

The action of the conference with respect to the shortening of smokepipes, coils, &c., he adds, is not so conclusive as to warrant extensive changes in this direction until additional consideration has been given the matter, since the shortening of coils and smokepipes has grave disadvantages. The Department, he adds, is directly opposed to some of the more recently expressed opinions received from the Atlantic fleet, which would give the matter more careful consideration in order to meet as far as practicable the consensus of officers of the fleet. Mr. Newberry's letter continues:

It appears, therefore, that the specific changes recommended by the conference in the North Dakota and Delaware are entirely practicable and do not materially affect the design of the vessels as a whole.

The Department does not deem it necessary to submit further recommendations to the proceedings of the conference with respect to the alleged defects in the North Dakota and Delaware other than to quote the following resolutions of the conference:

"Resolved, That the vote of the conference on resolutions based on separate characteristics of the design of the North Dakota are not to be considered in any way as adverse criticism of the design of the North Dakota as a whole as it is recognized that material sacrifices of weight and space had to be made in order to place five two gun 12 inch turrets on the middle line and to obtain a speed of twenty-one knots, which would give the vessel a tactical advantage over the North Dakota equal to any other warship afloat or known to be designed at the present time."

The foregoing resolution received the approval of the conference. At the conclusion of consideration by the conference of the designs of the North Dakota and Delaware the following resolution was adopted by a vote of 35 to 20:

"Passing from the consideration of specific minor defects, the conference believes that the design of the North Dakota and Delaware is an excellent one."

After disposing of the criticisms upon the design of the North Dakota and Delaware, the conference proceeded to the consideration of the designs of the Utah and Florida.

Mr. Newberry then takes up the changes recommended by the conference in the design of the Utah and the Florida, which were similar to those recommended in the North Dakota. The plans for the Utah and Florida were completed while the conference was in session with regard to the changes in the design of the North Dakota and Delaware is five inches in thickness, be increased on the Utah and the Florida to eight inches. The conference decided also that the torpedo defense battery be composed of five inch guns designed for high initial velocity and flat trajectory instead of six inch guns as contemplated in the plans of the Utah and Florida. The conference recommended that the thickness of the belt armor and the lower casemate armor of the Florida and the Utah, the conference held, should be the same as that of the North Dakota and the Delaware.

After disposing of the specific recommendations just enumerated with respect to the armor, armament, &c., of the Utah and Florida, the conference approved the following resolution:

"Whereas it is the sense of this conference that it is very inexpedient to delay in any way the placing of the Utah and Florida in the hands of the navy, it is recommended that the design of the Utah and Florida shall conform to the design of the North Dakota except in particulars covered by resolutions heretofore adopted by the conference, or such changes as may be deemed expedient by the Department, and it is further resolved that the conference shall proceed to the consideration of the military features which should be embodied in the designs of ships subsequent to the Utah and Florida."

This resolution was adopted by a vote of 12 to 9.

In response to a telegram from President Roosevelt directing an expression of opinion of the conference covering plans to remove all defects of the North Dakota and the Delaware without regard to the consequent delay in the construction of the Utah and Florida, the conference recommended that the Utah and Florida, which will cause no delay in

the high pressure area continued over the Atlantic States yesterday, keeping the weather in the north and south, with the winds to blow from that point, giving warmer weather all north of Virginia and slightly cooler to the south of that State.

The pressure was low and falling west of the Allegheny Mountains, where the weather was becoming cloudy and showery; rain fell in the Northwest and in several places in the Central States and the Gulf States.

The temperature was higher and generally above freezing point in all the Central States.

In this city there was a dense fog in the morning, followed by fair weather; warmer; winds light to fresh southeasterly; average humidity, 67 per cent; barometer, corrected to read to sea level, at 8 A. M., 30.46; 3 P. M., 30.48.

The barometer yesterday, as recorded by the official thermometer, is shown in the annexed table:

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